

## **AMENDMENTS TO THE CLAIMS**

The listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Currently Amended) A method of setting the pressure in a chamber of a vacuum system to a required pressure, the system comprising a pressure control system including a pump for evacuating gas from the chamber, a valve down stream of the pump, and a flow controller for allowing the flow of gas into the chamber, the method comprising:

setting an initial flow out of the chamber for achieving a pressure above the required pressure so as to increase ~~the~~ a rate of pressure increase, the initial flow occurring over a transient period which does not allow the pressure to exceed the required pressure, and

setting a preset flow out of the chamber after the transient period has elapsed for achieving and maintaining the required pressure~~[.].~~

wherein the setting comprises varying a conductance of the valve down stream of the pump.

2. (Previously Presented) The method according to claim 1 wherein the transient period elapses when the pressure has increased to the required pressure and the preset flow maintains the pressure at the required pressure.

3. (Previously Presented) The method according to claim 1 wherein setting a preset flow is attained by setting the effective pumping speed of the pressure control system to a preset effective pumping speed, and the initial flow is attained by setting the effective pumping speed lower than the preset pumping speed during the transient period.

4. (Previously Presented) The method according to claim 3 wherein the effective pumping speed is controlled by reducing the speed of the pump.

5. (Previously Presented) The method according to claim 4 wherein setting a preset flow is attained by setting a preset speed of the pump and the initial flow is attained by reducing the speed below the preset speed during the transient period.

6. (Withdrawn) The method according to claim 3 wherein a valve controls the flow of gas out of the chamber, and the effective pumping speed is controlled by controlling the conductance of the valve.

7. (Withdrawn) The method according to claim 6 wherein attaining a preset flow is attained by setting a preset conductance of the valve and the initial flow is attained by reducing the conductance below the preset conductance during the transient period.

8. (Withdrawn) The method according to claim 6 wherein the valve is positioned up-stream of the pump.

9. (Withdrawn) The method according to claim 6 wherein the pump comprises a high vacuum pump and a backing pump and the valve is between the high vacuum pump and the backing pump.

10. (Withdrawn) The method according to claim 1 wherein the flow controller varies the flow of gas into the chamber during the transient period.

11. (Withdrawn) The method according to claim 1 wherein a purge gas controller introduces gas into the pump during the transient period.

12. (Withdrawn) The method according to claim 1 wherein a purge gas controller introduces gas into the vacuum system up-stream of the pump during the transient period.

13. (Previously Presented) The method according to claim 1 wherein during the transient period, the pump speed is reduced so that the amount of gas which leaks upstream across the pump increases so as to increase the gas flowing into the chamber.

14. (Previously Presented) The method according to claim 1 wherein during the transient period the initial flow is maintained at a constant level for a fixed time.

15. (Previously Presented) A method according to claim 1 wherein during the transient period the initial flow is not maintained at a constant level.

16. (Previously Presented) The method according to claim 2 wherein setting a preset flow is attained by setting the effective pumping speed of the pressure control system to a preset effective pumping speed, and the initial flow is attained by setting the effective pumping speed lower than the preset pumping speed during the transient period.

17. (Withdrawn) The method according to claim 16 wherein a valve controls the flow of gas out of the chamber, and the effective pumping speed is controlled by controlling the conductance of the valve.

18. (Withdrawn) The method according to claim 17 wherein attaining a preset flow is attained by setting a preset conductance of the valve and the initial flow is attained by reducing the conductance below the preset conductance during the transient period.

19. (Withdrawn) The method according to claim 7 wherein the valve is positioned up-stream of the pump.

20. (Withdrawn) The method according to claim 6 wherein the valve is positioned downstream of the pump.

21. (Withdrawn) The method according to claim 7 wherein the valve is positioned downstream of the pump.

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22. (Withdrawn) The method according to claim 7 wherein the pump comprises a high vacuum pump and a backing pump and the valve is between the high vacuum pump and the backing pump.